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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,683

06/21/2006

Peter Larsson

P18752-US1

9439

27045

7590

01/20/2010

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EXAMINER

JAMA, ISAAK R

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

01/20/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,683	LARSSON ET AL.	
	Examiner	Art Unit	
	ISAAK R. JAMA	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) 7,9-12,16,19-22,32,34-37,41,44-47 and 51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 13-15, 17-18, 23-31, 33, 38-40, 42-43, and 48-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-8, 13-15, 17-18, 23-31, 33, 38-40, 42-43 and 48-50 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 23, 26 and 48 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication Number 2005/0181799 (Laroia et al.).(With priority to U.S. Provisional Patent Application Number 60/464,823 filed 04/23/2003)

1. Regarding claim 1, 23, 26 and 48, Laroia teaches a method in a radio communications equipment having processing circuitry for processing communications of traffic **[Figure 18, page 12, paragraph 0106; i.e. wireless terminal includes a receiver, a transmitter, I/O devices, a processor, e.g., a CPU, and a memory coupled together via bus over which the various elements may interchange data and information]** with different characteristics wherein traffic from at least two

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information sources is divided into two or more categories including a first and a second category for transfer with different characteristics, the method comprising transmitting the traffic for the transfer with different characteristics on physically wholly or partially separated channels **[Figure 19, Step 1904; i.e. a base station is operated to generate and transmit signals, e.g., pilot signals, for each of a plurality of different wireless communications channels, which the base station can use to communicate information between the base station and a wireless communications terminal, said plurality of different wireless communications channels including at least a first communications channel and a second communication channel, the first and the second communications channels having different quality characteristics which are a function of first and second transmission technologies used to establish said communications channels, said first and second technologies being different]**.

2. Regarding claims 2 and 27, Laroia teaches that the different characteristics of transfer comprises different time scale of power control adjustments **[Figure 7, i.e. the base station can allocate power differently across the pipes in accordance with the respective channel conditions on the pipes with respect to the wireless terminal receiving the segment]**.

3. Regarding claims 3 and 28, Laroia teaches that there is a difference in time scale between at least two categories that is at least one order of magnitude **[Figure 7, i.e. Pipes 708 & 710, and the time scale being doubled from t_0 - t_1]**.

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4. Regarding claims 24 and 49, Laroia teaches that the separation minimizes number of time slots, frequency slots or time-frequency slots of communications with different characteristics in the different cells **[Figures 1 & 2, and 3, page 4, paragraph 0043; i.e. different pipes for different users with different frequencies or different time slots]**.

5. Regarding claims 4 and 29, Laroia teaches that the first category of communications is transmitted with stationary or quasi-stationary transmission power level **[Figure 12; See pipes "A", "B" and "C" with different powers; Page 9, paragraph 0089; i.e. power allocation is not necessarily static either. The total transmit power can be varied at a slow rate for each of the parallel pipes (i.e. quasi static)]**.

6. Regarding claims 5 and 30, Laroia teaches that the quasi-stationary transmission power level is varying slower than the lowest speed of communications variations of the traffic of the first category **[Page 2, paragraph 0013; i.e. the mobility of the mobile node is taken into consideration when deciding what technology to use to communicate with the mobile node. In cases where the mobile node is moving at a high speed, the channel is likely to be changing at a relatively high rate. The speed of motion by a wireless terminal is sometimes estimated based on the rate of fading, a measured Doppler shift, or other signals such as the rate of changes in the power level of a periodic signal received from a wireless terminal or the rate and/or amount of timing corrections made by a wireless terminal or signaled to the wireless terminal]**.

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7. Regarding claims 6, 8, 31 and 33, Laroia teaches that the second category of communications is transmitted with power level adapted to counteract fading **[Page 16, paragraph 0141 – i.e. The step of making a measurement indicative of a rate of motion of said wireless terminal may alternatively include measuring the rate of change in at least one of: timing control signals which are used to instruct the mobile to make at clock timing change; the rate at which the power in a periodically transmitted signal from the mobile node changes over with time, a rate of change in a measured quality of a communications channel, and a rate of change in a channel fading measurement]**.

8. Regarding claims 13, 14, 15, 38, 39 and 40; Laroia teaches that the communications are separated in one-dimensional domain which is also a time domain; and a frequency domain **[Figures 1 & 2; i.e. single frequency and variable time in Figure 1 and single time and variable frequency in Figure 2]**.

9. Regarding claims 17, 18, 42 and 43; Laroia teaches that the communications are separated in two-dimensional domain which is also a time and frequency domain **[Figure 3, page 4, paragraph 0043; i.e. graph of frequency on the vertical axis vs time on the horizontal axis]**.

10. Regarding claims 25 and 50, Laroia is teaches a processing circuitry maximizing the signal to interference ratio or carrier to interference ratio of time slots, frequency slots or time-frequency slots, if any, of communications with different characteristics in the different cells **[Page 12, paragraph 0105; i.e. WT (wireless terminal) channel pipe selection/channel quality report processing module receives WT feedback**

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reports including the wireless terminal's selected (preferred) pipe and associated channel quality report information, e.g., SNR, SIR, fading information].

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Number 7,230,991 (Sang et al.) teaches a scheduling method with tunable throughput maximization and fairness guarantees in resource allocation. "Opportunistic transmission scheduling with resource-sharing constraints in wireless networks" to Liu et al. teaches an opportunistic transmission

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scheduling policy that exploits time-varying channel conditions and maximizes the system performance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ISAAK R. JAMA whose telephone number is (571)270-5887. The examiner can normally be reached on Monday-Thursday; 4-10.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/IRJ/

/LESTER KINCAID/
Supervisory Patent Examiner, Art Unit 2617